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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/23/2005

Pekka Vallittu

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EXAMINER

MAI, HAO D

ART UNIT

PAPER NUMBER

3732

MAIL DATE

DELIVERY MODE

08/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/557,822	Applicant(s) VALLITTU ET AL.	
	Examiner HAO D. MAI	Art Unit 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2.. **Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prasad et al. (6,039,569) in view Brattesani et al. (6,234,793 B1).**

Regarding claims 1-2, Prasad et al. disclose a structural component capable of taking up the shape of a ribbon (column 5 lines 12-18), or a strip 62 (Figs. 6C), the structural component comprising fibers and a matrix, at least a portion of said matrix being at least partially uncured (column 5 lines 12-18). Prasad et al. further disclose an occlusal strip 20 (Figs. 2A-2D; column 5 lines 37-56) also being a matrix band comprising fibers and a matrix (column 7 lines 21-25), at least a portion of said matrix being at least partially uncured (column 5 lines 52-56). Prasad et al. further disclose a wrap 30 (Figs. 3A-3C; column 5 line 57 – column 6 line 16) also being a matrix band comprising fibers and a matrix (column 10; lines 1-4), at least a portion of said matrix being at least partially uncured (column 6 lines 9-14).

Prasad et al. implicitly disclose the matrix bands to be of a very thin thickness. For example: the occlusal strip 20 (Figs. 2A-2D) and the strip 62 (Figs. 6C) should be of a thin thickness to adhere smoothly to the occlusal or side surface, respectively, or a tooth; the wrap 30 (Fig. 3C) should be of a thin thickness suitable for wrapping around a

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tooth and fitting between two teeth. However, Prasad et al. are silent to the matrix bands having a thickness specifically ranging from 0.05 to 1.5 mm.

Brattesani et al. disclose that it is well known within the field of dentistry that such matrix bands can have a typical thickness of 0.05 mm (column 2, lines 1-11). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make Prasad et al.'s matrix band, strip, ribbon, and/or wrap, having a thickness of 0.05 mm, which is within the claimed range of 0.05 mm to 1.5 mm, so that contact between the band, the tooth, and/or the restorative composite is optimized as explicitly taught by Brattesani et al. Such thin thickness of the matrix band also optimizes the polymerization of the restorative composite. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make Prasad et al.'s matrix band(s) having such claimed range of thickness of 0.05 mm to 1.5 mm since it has been held that discovering an optimum or workable ranges and/or changing a component's size involve only routine skill in the art. *See MPEP §§ 2144.05.*

As to claim 3-4, Prasad et al. disclose the polymeric matrix to comprise methacrylate (column 3 lines 28-46) and fibers, such as polyolefins (column 3 lines 28-46). As to claim 5, the fibers are disclosed to be continuous and multi-directionally oriented (column 3 lines 1-16). As to claims 6-7, the disclosed matrix further comprises particulate filler material, such as silica, silicate glass, etc. (column 3 line 60 – column 4 lines 8). *See MPEP 2173.05(h) concerning Markush Groups.*

As to claims 8-9, Prasad et al. also disclose a kit as claimed. For example, Figures 6A-6E show matrix band/strip 62 (Figs. 6C), a restorative dental composite (column 6 lines 63-65), and a bonding adhesive (column 6 line 56). Also note the applicator devices in Figure 6D.

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Response to Arguments

3. Applicant's arguments filed 05/27/2008 have been fully considered but they are not persuasive and are moot in view of new ground(s) of rejection.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hao D. Mai whose telephone number is (571) 270-3002. The examiner can normally be reached on Monday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hao D Mai/
Examiner, Art Unit 3732

**/John J Wilson/
Primary Examiner, Art Unit 3732**